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REDDIE & GROSE 16 Theobalds Road
London WC1X 8PL(GB)(54) **Guide structure for a multicontact connector.**

(57) A guide structure for a multicontact connector comprises an LSI circuit chip (1) having a plurality of first contacts (11) on the underside thereof, a connector housing (2) mounted on a circuit board (1) and having a plurality of second contacts (9), a base frame (3) fixed to the circuit board and surrounding the connector housing, a guide frame (7) having an opening (6) for receiving and retaining the connector housing, and a plurality of guide pins (8), and a plurality of guide holes (15) formed in the underside of the chip and receiving the plurality of guide pins of the guide frame so as accurately to engage the first contacts with the second contacts.

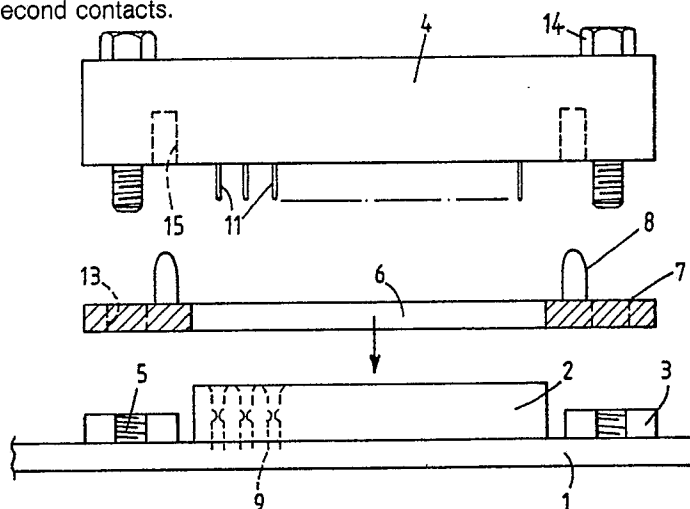


FIG. 1

GUIDE STRUCTURE FOR A MULTICONTACT CONNECTOR

BACKGROUND OF THE INVENTION

The invention relates to a guide structure for a multicontact connector.

A conventional guide structure for a multicontact connector has a disadvantage in that various structural components thereof need to be dimensioned with considerable accuracy, as will be described in detail later with reference to the accompanying drawing.

SUMMARY OF THE INVENTION

An object of the invention is, therefore, to provide a guide structure for a multicontact connector free from the above-mentioned disadvantage of the conventional guide structure.

According to an aspect of the invention, there is provided a guide structure for a multicontact connector comprises: a first member having a plurality of first contacts on the underside thereof; a connector housing mounted on a second member and having a plurality of second contacts; a base frame fixed to the second member and surrounding the connector housing, a guide frame having an opening for receiving and retaining the connector housing an a plurality of guide pins; and a plurality of guide holes formed in the underside of the first member and receiving the plurality of guide pins of the guide frame to engage said plurality of first contacts with said plurality of second contacts.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages will become apparent from the following description when taken in conjunction with the accompanying drawings in which:

Fig. 1 is cross-sectional view of an embodiment of the present invention;

Figs. 2A and 2B are top plan views of the embodiment shown in Fig. 1. and

Fig. 3 is a cross-sectional view of a conventional guide structure for a multicontact connector.

DESCRIPTION OF THE PREFERRED EMBODIMENT

To better understand the invention, a brief reference will be made to a conventional guide structure for a multicontact connector shown in Fig. 3. As shown, the conventional structure comprises a

base frame 3 in which guide pins 8 are press-fitted for guiding a large scale integrated (LSI) circuit package 4. The guide pins 8 are individually received in reference holes 10 formed through a printed circuit board 1, whereby the base frame 3 is positioned relative to the printed circuit board 1. A plurality of contacts 9 are planted in the printed circuit board 1. Contact pins 11 extending from the LSI circuit package 4 are individually mated with the socket-like contacts 9 while being guided by the guide pins 8 of the base frame 3.

With such a conventional guide structure, it is impossible to insure the accurate and smooth engagement of the contact pins 11 of the LSI circuit package 4 and the contacts 9 of the printed circuit board 1, that is, a connector housing 2 unless the position of the reference holes 10 formed in the printed circuit board 1, the position of the connector housing 2 on the printed circuit board 1, and the position of holes formed in the underside of the LSI circuit package 4 for receiving the pins 8 are provided with extremely high positional accuracy relative to each other.

Referring to Figs. 1, 2A and 2B, an embodiment of the invention is shown. As shown, the guide structure comprises a connector housing 2 provided with a plurality of contacts 9. The connector housing 2 is rigidly mounted on a printed circuit board 1. A base frame 3 is fastened to the printed circuit board 1 by screws 12 as shown in Fig. 2A, while surrounding the connector housing 2. Threaded holes 5 are formed in the four corners of the base frame 3 in order to fasten an LSI circuit chip 4 to the connector housing 2 by screws 14. Fig. 2A shows the the connector housing 2 and base frame 3 in a plan view.

A guide frame 7 guides the LSI chip package 4 when the latter is mated with the connector housing 2. Specifically, the guide frame 7 has an opening 6 and through holes 13. The walls of the opening 6 intimately contact the outer periphery of the connector housing 2. The screws 14 are individually passed through the through holes 13. A plurality of guide pins 8 extend from the guide frame 7 perpendicularly to the underside of the connector housing 2. Fig. 2B shows the connector housing 2 and the guide frame 7 put together

The guide structure having the above configuration eliminates the disadvantage particular to the conventional structure as stated earlier.

Claims

1. A guide structure for a multicontact connec-

tor comprising:

a first member having a plurality of first contacts on the underside thereof;

a connector housing mounted on a second member and having a plurality of second contacts;

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a base frame fixed to said second member and surrounding said connector housing;

a guide frame having an opening for receiving and retaining said connector housing, and a plurality of guide pins; and

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a plurality of guide holes formed in said underside of said first member and receiving said plurality of guide pins of said guide frame to engage said plurality of first contacts with said plurality of second contacts.

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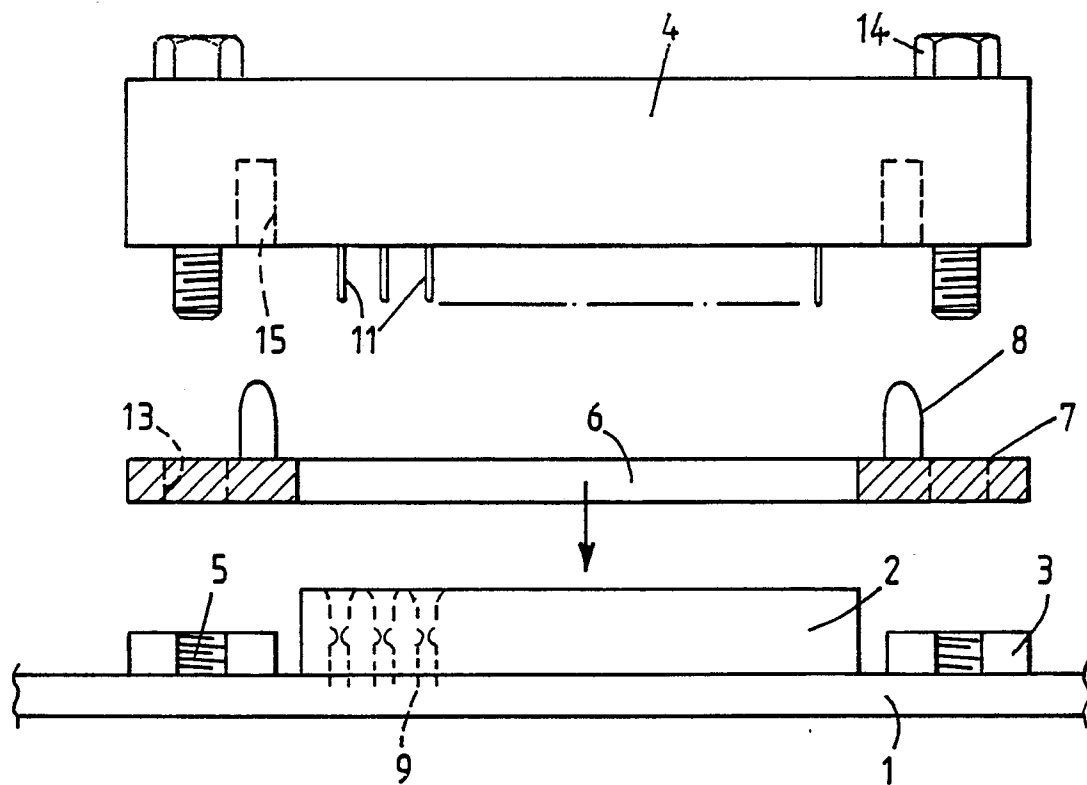


FIG. 1

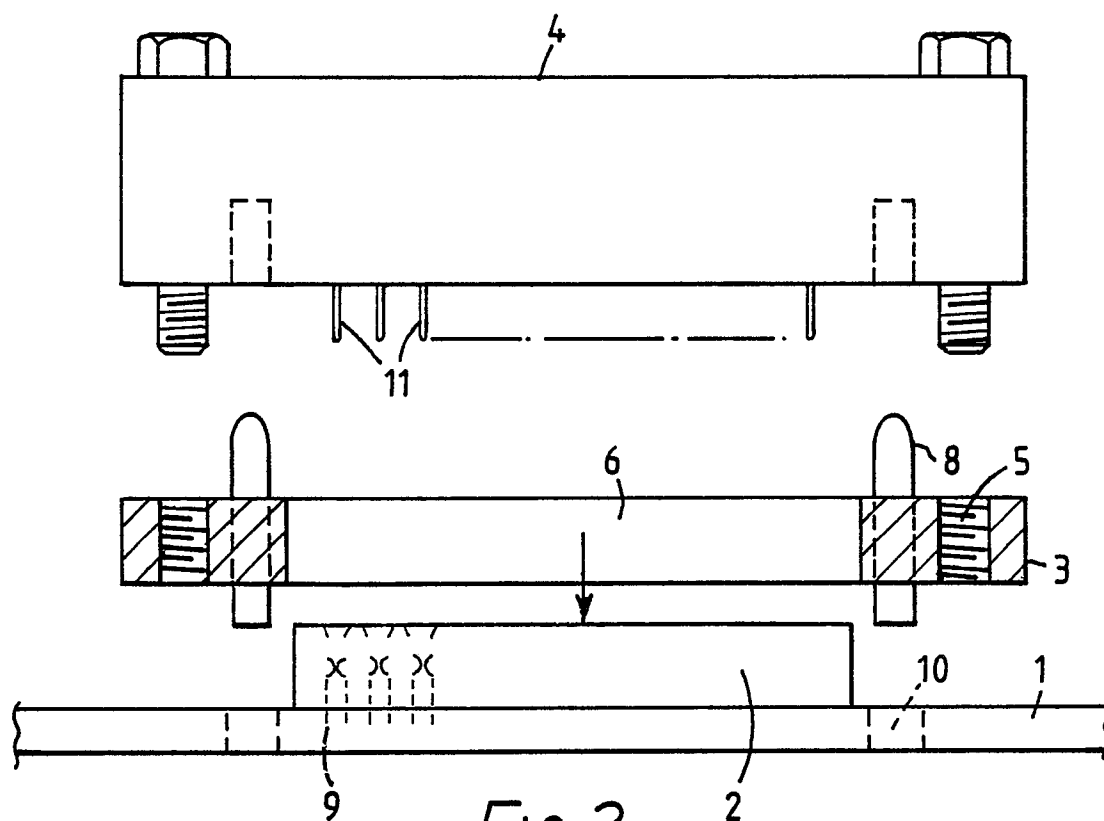


FIG. 3

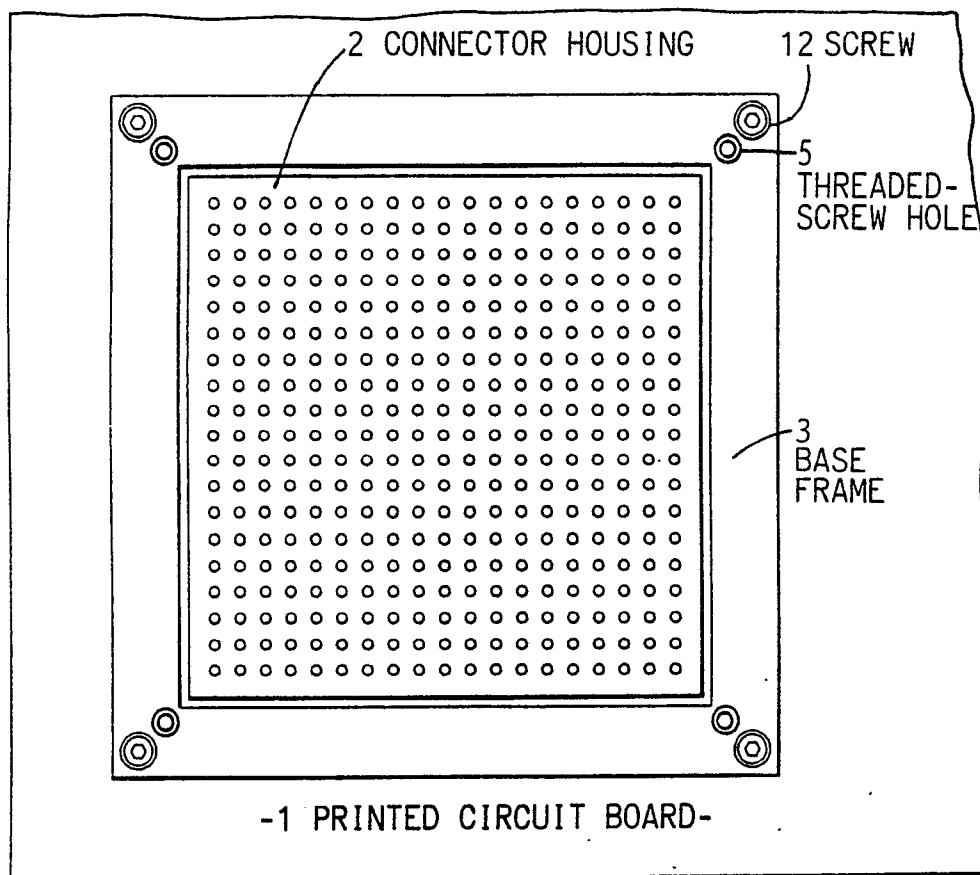
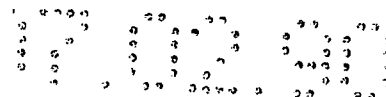


FIG. 2A

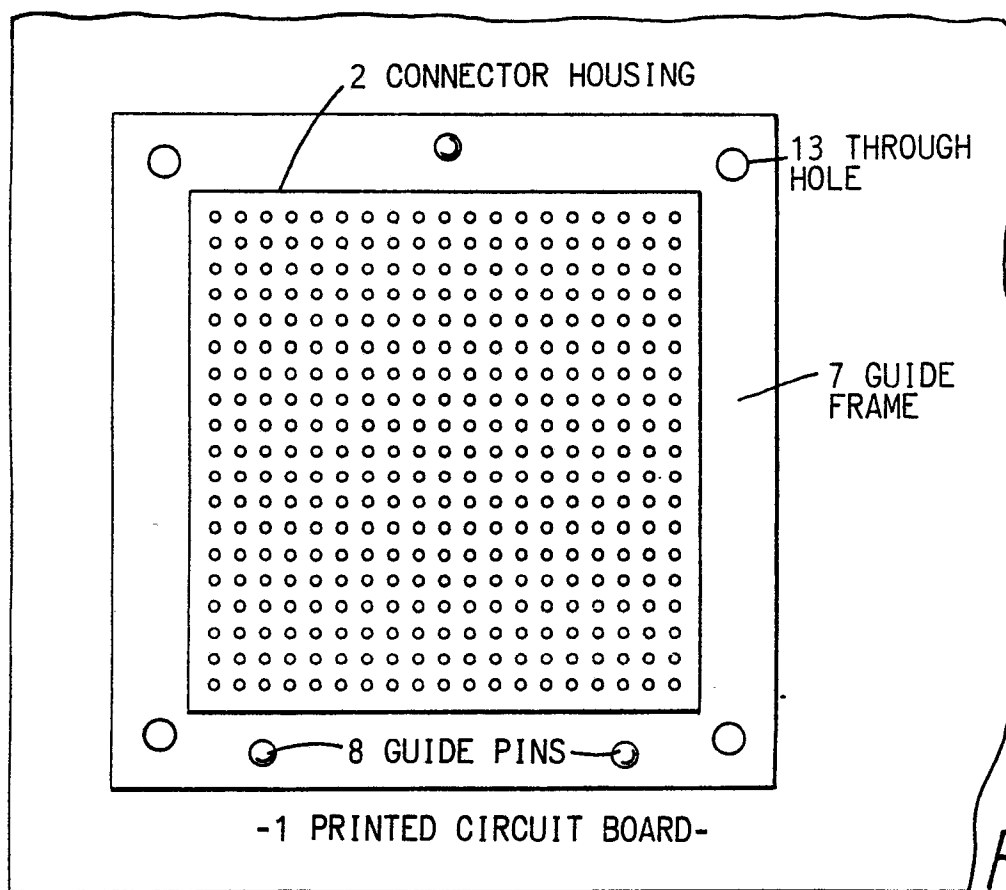


FIG. 2B



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	DE-A-2 441 670 (SIEMENS AG) * page 1, paragraph 1; page 4, last paragraph - page 5, paragraph 1; figure 1 *	1	H 05 K 7/10
A	IBM TECHNICAL DISCLOSURE BULLETIN vol. 22, no. 8A, January 1980, pages 3200,3201, New York, US; A.J. ARNOLD et al.: "Pluggable module assembly" * page 3200, paragraph 1; page 3201, paragraph 4; figures *	1	
A	GB-A-2 091 036 (INTERNATIONAL COMPUTERS LTD.) * page 1, lines 75-95; figure 1A *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H 01 L 23/00 H 05 K 1/00 H 05 K 3/00 H 05 K 7/00 H 01 R 23/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 21-03-1990	Examiner ALEXATOS G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			